NATION NEEDS MORE NAVY YARDS, SAYS F. D. ROOSEVELT

Assistant Secretary Discusses Plans of Department to Make Best Use of Antiquated Locations

"WHEN Germany has only three navy yards and England four for their navies, which are so much larger than that of the United States, why must this nation maintain twelve yards? Is it to favor the political interests in the various sections of the country?"

These were the questions put to Franklin D. Roosevelt, Assistant Secretary of the Navy, who at 35 is regarded as one of the highest authorities on naval matters.

"The only reason which justifies the location of a navy yard at any point is the military necessity of having it there," replied Mr. Roosevelt. "The fact that the entire German seacoast on the North Sea does not exceed 125 miles easily accounts for the small number of yards on that shore.

"They have there the two great yards on the Weser and the Elbe—Wilhelmshaven and Kiel; the latter at the western terminus of the Kiel Canal, which makes these yards available for Germany's Baltic fleet. With the invincibly fortified station on Helgoland guarding the approach to these harbors, they are perfectly protected.

"On the Baltic coast Germany had only to prepare against the naval power of Russia, Norway or Sweden, and since the canal gives easy access to their western yards, they need no great construction yard on the Baltic, and have there only one naval station—that at Danzig.

"With these imperial yards and many private yards the Germans have all the bases for naval operations, repairs and new construction which they can possibly require for military purposes.

"Almost every possible place not occupied by an imperial navy yard has been taken for private yards, which can in time of need be utilized for national purposes. In an emergency, such as the present conflict, the private yards alone can probably construct more vessels than the imperial exchequer will pay for.

"England being an island has a greater coast line, but the most widely separated points of the island being about only twenty-four hours sailing, the royal navy yards, Devenport, Portsmouth, Chatham, Rosyth and other smaller yards, afford all the room required for repair and construction. The many private yards on the Clyde, the Thames and other waters, considerably larger than the German private yards, give to England the use, in case of need, of many more than the great national yards. Hence four yards are ample for all requirements in war as well as in peace for England.

"If this Government provided yards of naval bases for every hundred miles of its continental seacoast, exclusive of Alaska, it would require about fifty instead of the seven first and five second class yards now scattered at varying intervals along the 5,700 miles of the Atlantic and the Pacific and the Gulf of Mexico.

"From the standpoint of economy of production, if not of economics, it is possible that one yard on the Atlantic and one on the Pacific might be successfully operated.

"If the first class yards—most of which were located before the middle of the last century—were to be replaced to-day, some changes would be made. Prior to 1850 it was thought that the range of a cannon would never exceed the league which measured a nation's jurisdiction beyond its coast line; but now it would be no strain upon a dreadnought's 14 inch guns to smash a shipyard at three or four times that distance.

"But from the standpoint of economics, in which their use for military necessities is the first factor, the yards are fairly well located and too few rather than too many in number.

"Every one knows that to some extent the distribution of the yards in the first instance was aided by local influences; but as only one, Charleston in 1901, has been constructed since 1891, this day and generation need give little concern to that as a present grievance.

"As to the use of national yards for political party advantage, I can say nothing about what may have been done in other Administrations; but I say emphatically it is not done under this Administration; for it is not good business, which is a sufficiently good reason, nor is it good politics.

"Comparison between costs of maintenance of foreign yards and construction of ships in them with the same items in the United States yards reflects unfairly upon our management, since the American workman demands and receives fair pay for his labor; and the American manufacturer of ship material and fittings, into whose product labor largely enters, obtains corresponding prices. But in efficiency of work and organization the United States yards will stand comparison with any yard, public or private, in any country."

There is a popular hazy idea that a navy yard is an enclosed space usually near the water, so that ships may moor alongside while something or other is being done to them. Those persons who have sailed past the yards have a conception of several such vessels, and one, or maybe two, great unused cranes, presenting enormous arms and multitudinous wire cables, sold to the yard for the benefit of some influential contractor.

If such a person will visit a first class yard, such as the New York yard—and they are open at suitable hours to public inspection—he will come away with a very different mental picture. He will realize that the place seems unpeopled only because the yards are so large that the buildings and the workmen are not crowded. He will see barracks large enough to furnish roomy accommodations for regiments of marines, with a big parade ground on which they are drilled, and beyond a row of neat and comfortable houses where the commandant, usually of Rear Admiral's rank, and some of the officers attached to the yard have quarters for themselves and their families.

The visitor will see row after row of great fireproof storehouses filled with all sorts of non-perishable supplies for the ships—with flour and dried applies, butter and cheese, salt and sugar, dried peas, beans and canned goods; with duck suits, cotton suits, cloth uniforms, pea jackets and sou'westers; with paint and white lead, with hemp and wire cables, with anchors and chains. In another building he will find all sorts of light ordnance, quick firing and machine guns, of many types.

If fortunate enough to be admitted to the torpedo room he will see the deadly United States navy torpedo, built like a cigar, with its blunt nosed point and tapering stern at which there are the double bladed propellers which drive it 10,000 yards on its death mission, and the cunningly devised double rudders which keep it at a set depth and hold it so that it cannot swerve to the right or the left.

He may, if his ears can stand the din, enter the shops where boilers are repaired and see there the overhead cranes pick up tons of steel and swing them from place to place as a giant would handle a sack of meal. His eyes will rejoice at the sight, in these days of physical decadence, of Titans naked to the waist swinging hammers which an ordinary man could barely lift, as they beat into shape the forgings needed for especial purposes.

He may see the ways where the great 32,000 ton warships are under construction and observe how the cross sections or the plates for sides or deck are raised and held in place while pneumatic riveters hammer home the ten thousands of red hot bolts which convert amorphous pieces of steel into a battleship made after the cunning design of a naval constructor down in Washington.

Franklin D. Roosevelt, Assistant Secretary of the Navy.

But let the visitor keep on, even if he has walked far enough to be tired; he will come to the dry docks—the larger ones completed only after long endeavor and many mishaps due to the unstable bottom on which they were built. In one of the largest, more than 1,000 feet long, he may see a vessel, perhaps a dreadnought, resting on blocks under her keel, held up by bilge blocks and great extension spars running from the sides of the vessel to the sides of the basin.

In a smaller dock lies a tug, or perhaps a collier, a destroyer or a submarine. Around these dry docks and through the paved streets are miles of railroad tracks on which run trains for carrying material taken out of the ships or to be built into them. On them run the great travelling cranes capable of lifting 150 tons of steel back and forth.

At the bulkheads are naval ships of all sorts—some in commission, some in repair, some in ordinary—some about to start on a long cruise and some just back from far waters. They are big, they are little, they are fighters, destroyers and supply ships. They are taking on, they are discharging stores. Some are spick and span, ready for service; some are covered with red paint and look anything but lovely.

This country has at home, that is on this continent, seven first class and five second class navy yards, besides two naval stations; and one first class and two second class yards and four naval stations abroad, on our insular possessions. It also has five coaling stations, besides eight reservations, such as Annapolis, for naval use.

Of the yards called first class, because supplied with the shops, machinery and appliances for construction and heavy repair work, New York, established in 1801, the largest, is fitted to do any kind of work on a naval vessel. It represents from its establishment to June 30, 1914, an outlay for land, buildings, public works, improvements and machinery installed, more than $30,765,000. Its military value is incalculable; and although its location from the strategic standpoint is not ideal—it is not on the mainland and is too near the coast for perfect protection—it lies in the greatest seaport of the country, is conveniently near railroad lines and waterways, and in the centre of a great labor and manufacturing supply.

Boston, Portsmouth and Norfolk yards were established in 1800. The northeastern coast States at that time were the home of the nation's shipbuilding, and it was only natural that the first national yards should be placed where plenty of timber and ship material could be found and where there were capable shipwrights in plenty. But conditions of naval warfare have materially changed since that time. A vessel of thirty-five feet draught was then undreamed of, and a gun which would throw a half ton projectile enclosing toluol enough to annihilate a steel plate six inches thick a distance of twelve or more miles was much more remote in the minds of men than a 32,000 ton ship. Therefore

Policy Not to Abandon Any But to Put Each to the Uses for Which It Is Best Adapted

it is not strange that these old yards are located nearer than desirable to the open sea and sometimes in places which are not reached by deep channels.

Up to June 30, 1914, these three yards had cost the Government, Portsmouth, $11,212,000; Boston, $16,164,000, and Norfolk, $19,[illegible]00,000.

The Philadelphia yard, built in 1868, represents an expenditure of $13,000,000, and the two first class yards on the Pacific coast, Mare Island and Puget Sound, respectively $20,150,000 and $9,668,000.

The Washington yard stands in a class by itself. It is really not a navy yard, but a gun factory. It was built in 1800 and has had expended upon it over $14,000,000.

The second class yards at Charleston (1901) cost $4,632,000; Pensacola (1828), $7,727,000, and New Orleans (1849), $2,729,000.

Thus our navy yards exclusive of coaling stations and other naval stations on our continental territory, have in the last 115 years cost more than $134,250,000, and these are the properties which a former Secretary of the Navy and some of his adherents are urging should be abandoned, because the work which they are accomplishing can be done more economically in a few larger yards, as England and Germany are doing. But machinery cannot be idle without going to destruction, and all these yards become a military necessity in case of war, so, as explained by Mr. Roosevelt, the economic question to be determined was, how to maintain them at the least outlay commensurate with the best military result. It must be remembered also that the Caribbean Sea and the water approaches to Panama may easily be the arena where our next naval battles will be fought.

This is the way the department is working out the problem. All the first class yards, except Portsmouth, have been retained as they were the idea being to fit them, or some of them, out eventually with everything needed to construct or repair any sort of ship which the Government may possess. The Government can build now almost as cheaply as any private yards, and the chief cause of difference is the cost of labor, which is so fixed by law that the national yards may now pay the least average cost on similar work in the vicinity.

Portsmouth is not really needed for strategic purposes; the approach to it is through a difficult channel which can be dredged and kept in condition only at heavy expense; so it is utilized as the place where most of the lighter electrical supplies for the navy, the small boats and equipage are made and for the construction and repair of submarines, one of which is now being built there.

The Washington yard has for a long time been given over entirely to the manufacture of naval ordnance. There they make everything, from the one pounder quick firers, the aeroplane guns and, in short, everything for a ship's secondary battery to the new fourteen inch fifty-five calibre guns which will outshoot anything of their class in the world. There they make cases for fixed ammunition, and there they maintain the model tank where the naval constructors make tests of all the new designs.

Puget Sound yard is regarded by the Department as well equipped and well located; it is needed there and is gradually being developed.

Mare Island yard has come under severe criticism because, it is said, no battleship can enter it. Certainly no hostile one can, for it is within the Golden Gate, nearly thirty miles from the sea, and safe from gunfire or torpedo attack. The depth of water in the channel when it was selected was ample for any vessel of that time (1854), but the great size of the modern battleship will not permit the safe entry of one through the present channel, which is now being deepened to admit vessels of any draught. The Government is now constructing there oil ships and a supply ship.

At one time the navy yards at Charleston, New Orleans and Pensacola were closed, leaving only the small naval stations at Port Royal and Key West for the relief of any of our ships in distress in Southern waters. The valuable machinery and buildings in these stations were deteriorating and the paved streets were overgrown with grass. The Department's policy has been to reopen these stations, utilizing them only for especial purposes, but keeping them in such condition that if military conditions require it they can speedily be converted into active yards.

The navy's need for aeroplanes has recently been the subject of much comment and the Department is now experimenting and testing the various kinds which have been offered. There must be a place where the hydroaeroplane, which rises from the water, can be tested, where the aviators and observers who are to handle them may be trained; and in all the country there is no place where conditions are better for these tests than Pensacola, and there the Department has stationed the aeronautic corps.

Charleston has a hard channel with a shifting bar. It is hardly available for big ships; but it is the best location on the coast between Norfolk and Key West. Destroyers can always enter, so it has been made the place of refuge for those boats and has all the special machinery and supplies required for that indispensable class of speed boat; the destroyers in reserve are stationed there. It is easy to secure a supply of the best cotton goods at Charleston, so the Department has converted some of the older buildings into factories and makes there all the cotton clothing required for the use of the navy.

With the abandonment of Pensacola as an active yard the Gulf was left without a station, so the one at New Orleans was cleaned up, the rust cleared from the machinery, and the yard put in working order. Very large boats cannot reach it; but it is available for all lighter draught gunboats, destroyers and submarines, and is equipped to do all manner of repair work upon them. It is cheaper to send gunboats on duty in the West Indies to New Orleans for repairs than to Portsmouth, N. H.

In addition to these yards, the Department has training stations at Newport, R. I.; on the California coast and on the Great Lakes. It maintains the Naval Proving Ground, the Naval Academy at Annapolis and the torpedo station at Newport, where torpedoes are completed, and where the experiments are conducted which have given us a torpedo and mines at least equal to any in use by the European Powers.

Mr. Roosevelt believes there is need of a base on the Pacific coast at some point near the southern point of California, which is more than 400 miles from the Mare Island yard at San Francisco, and that to complete the chain a stronger yard should be maintained at Guantanamo.

BEAUTIFUL LINCOLN MEMORIAL DEDICATED WITH SIMPLE CEREMONIES

THE work of erecting the beautiful Lincoln memorial in Potomac Park, Washington, is proceeding so quietly that its official dedication in the early part of this month passed almost without notice. The ceremonies in their simplicity were in keeping with the man Lincoln, almost, one might imagine, such as the great emancipator himself might have ordered.

The committee in charge of the work went to the building without brass bands, without wide announcement, viewed the progress of the work and held a few simple rites. David Bispham stood in the portals of the noble pile and facing the city of Washington sang "The Star Spangled Banner." As the last note died away the dedication of the greatest memorial to an American was completed.

The difficulty of access to the part of Potomac Park selected for the monument is one reason for the simplicity of the exercises and explains why, although the work has been proceeding for several years, few visitors to the capital see the memorial and its importance as an architectural structure is by no means generally realized. Comparable to the Washington Monument in point of impressiveness, it will cost $700,000 more than the latter. The giant obelisk was built at a total expense of $1,300,000—$600,000 of the amount being contributed by patriotic citizens and the balance for its completion after a lapse of thirty years furnished by Congress. The national Government will pay $2,000,000 outright for the Lincoln memorial.

The memorial is expected to be finished within two years from the present date. Already the foundation of granite is complete and the white marble walls are partly up, with portions of some of the stately columns in place. As one sees the structure to-day the first story of its height represents the foundation, which later on will be covered up, the raising of the grade contributing to the dignity of the memorial by uplifting it in effect upon an artificial hill.

It is situated on the shore of the Potomac River, almost at the water's edge, and the site chosen is such that a straight line passing through the Washington Monument and the middle of the Capitol would bisect the memorial. If streets were cut through Potomac Park the structure would be exactly seven blocks west of the obelisk erected in honor of the Father of His Country.

Congress in February, 1911, created a commission "to procure and determine upon a location, plan and design" for a Lincoln memorial. William H. Taft was chosen to preside over its deliberations, and advice on the subject was requested from the National Commission of Fine Arts. The latter body recommended the Potomac Park site, which was finally selected—Capitol Hill, the Soldiers Home near Washington and Arlington being severally considered, but all three rejected as less suitable for the purpose.

It was decided that the Potomac Park site, in relation to the general plan of the city, possessed advantages which no other could claim. While sufficiently isolated to have dignity, it will be, when the street car line is extended, readily accessible. The park has already become a place of great popular vehicular resort, and is expected in the not distant future to be the chief centre of outdoor assemblage in Washington for people on foot as well as in motor cars and carriages.

John Hay, a former secretary of Lincoln and one of his foremost biographers, wrote: "As I understand it, Lincoln of all Americans next to Washington deserves this place of honor. He was of the immortals. You must not approach too close to the immortals. His monument should stand alone, remote from the common habitations of man, apart from the business and turmoil of the city—isolated, distinguished and serene. Of all the sites suggested this one overlooking the Potomac is best suited to the purpose."

Said Henry Bacon, the New York architect selected to build the memorial: "On the great axis, planned over a century ago, we have at one end the Capitol, which is the monument of the Government; and to the west, over a mile distant, is the monument to Washington, one of the founders of the Government. If the Lincoln memorial is built on this same axis, still further to the west, by the shore of the Potomac, we shall there have the monument of the man who saved the Government—thus completing an unparalleled composition which cannot fail to impart to each of its monuments a value in addition to that which each standing alone would have."

It was further considered that the memorial, placed in Potomac Park, need not be so high as to bring it into competition with the Washington Monument, and that in the absence of nearby structures it would be visible and conspicuous from great distances. A monumental structure standing in a broad plain, surrounded by an amphitheatre of hills, is as widely seen and as effective to the eye as one upon a hilltop. From the hills of the District and of Virginia the constantly recurring views of the great Lincoln Memorial beheld in association with the Washington Monument and the dome of the Capitol will be impressive in the highest degree.

In regard to the design of the memorial, Mr. Bacon's idea, which met the high approval of the commission, was that it should symbolize the Union of the United States of America and include in the walls of its sanctuary three things representative of Lincoln himself—one a statue of heroic size expressive of his humane personality; the others tablets inscribed with his two great speeches, the Gettysburg address and the second inaugural address, each with attendant sculpture and painting telling of the qualities of the man which these speeches evinced.

The statue of Lincoln that is to adorn the Memorial.

The most important object of course is the statue of Lincoln, which will be placed in the centre, and by virtue of its imposing position in the situation of honor. It is a superb figure of the great war President and is considered an admirable likeness by many persons acquainted with him in life who have seen the design. The gentleness, power and intelligence of the man are expressed as far as possible by the sculptor's art. Seated in a curule chair, the figure is twelve feet high; if standing it would be sixteen feet in height.

The part of the memorial structure in which the statue is placed will be unoccupied by any other object and the visitor will be alone with it. Smaller halls on either side of the central space will each of them contain one of the tablets above mentioned, the words of the speeches in letters of bronze. Adjacent designs in low relief will relate in allegory the great qualities of the man manifest in those speeches—charity, patience, patriotism, devotion to high ideals and humaneness.

Surrounding the walls enclosing these memorials of the man will be a colonnade forming a symbol of the Union, each column representing a State; that is to say, thirty-six columns in all, one for each State existing at the time of Lincoln's death. On the walls above the colonnade and supported at intervals by eagles there will be forty-eight memorial festoons, one for each State existing at the present time.

Each of the two side halls wherein the tablets are placed will be 57 feet long, 37 feet wide and 60 feet high. They will be partly screened from the central portion of the structure where the statue sits by rows of Ionic columns 50 feet in height, thus giving a certain isolation to the spaces they occupy.

Preliminary borings made before the work of building was begun struck solid rock at a depth of 42 feet. Here was an advantage not possessed by the Washington Monument, which stands upon a great mound of clay and gravel that was anciently a part of the shifting bottom of the Potomac. To furnish a substantial foundation for the Lincoln Memorial a system of concrete piling was erected from the bedrock.

As already stated, the memorial when finished will stand upon an artificial hill. By means of terraces the ground at the site will be raised until the floor of the building is 4[illegible] feet higher than the original grade level.

First a circular terrace 1,000 feet in diameter will be raised 11 feet above the present grade and on its outer edge will be planted four concentric rows of trees, leaving a plateau in the centre 755 feet in diameter, which, by the way, is greater by four feet than the length of the Capitol. In the centre of this plateau, surrounded by a wide roadway and walks, will rise an eminence supporting a rectangular stone terrace 14 feet high, 256 feet long and 186 feet wide. Upon this terrace will stand the memorial, wholly of white marble.

To support the columns that uphold the four sides of the memorial there will be a marble platform 204 feet long and 134 feet wide with three steps whereby the visitor may ascend to reach the floor of the building. The total height of the structure above the finished grade at the base of the terrace will be 99 feet. The finished grade at the base of the terrace being 23 feet above the original grade, the total height of the building above the ground level of to-day will be 122 feet.

The colonnade of the Union (of 1865) will surround the walls of the Memorial Hall, which will rise through and above it. The columns will not be vertical, but slightly tilted inward—the four corner columns tilted more than the others—and the walls of the building itself will be similarly inclined. These tiltings are an ingenious architectural device having relation to the science of optics, and while not manifest to the eye of an observer will give the structure an appearance of greater stability and strength.

The memorial hall (exterior) will be 156 feet long and eighty-four feet wide. Its walls and floor will be of colored marble. The ceiling will be sixty feet high and will be supported by massive bronze beams, gilded, colored and lacquered. Light will be admitted through the ceiling.

Extending from the east front of the memorial eastward in the direction of the Washington Monument will be a lagoon—an artificial lake with banks of cut stone, in the waters of which the building will be reflected, contributing to its effect of tranquillity and retirement. This will introduce into the landscape an added element of repose and beauty. Across its calm surface Abraham Lincoln, carved in the whitest of statuary marble, will gaze thoughtfully for centuries yet to come at the noble shaft erected in honor of the father of his country.

The entrance to the memorial hall, forty-five feet wide and forty-four feet high, will be equipped with sliding bronze grilles filled with plate glass. These grilles during the day will be rolled back into spaces provided for them in the walls and at night will be closed to keep out possible intruders. As they will be mostly glass they can also be kept shut in the daytime in cold weather without interfering with the admission of light through the entrance.

The central room, wherein the statue is to be placed, will be seventy feet long, sixty feet wide and sixty feet high. Taken as a whole the memorial will be a superb and most impressive structure, quite as noble and striking in its way as the Washington Monument.

The Lincoln Memorial Commission in its last report to Congress said: "The comparative isolation of the Potomac Park site, in the midst of a large area of vacant land, constitutes a peculiar advantage. For a long distance in every direction the surroundings are absolutely free for such treatment as may best enhance the effect of the memorial. The fact that there are now no features of interest or importance, that everything is yet to be done, means that no embarrassing obstacles will interfere with the development of a setting adequate in extent and perfect in design, without compromise and without discord."

At the present time the site is not very accessible, except to motor cars and other vehicles, the only road by which it can be reached being that which follows the shore of the river. But this difficulty is easily overcome and will be remedied. An extension of street car lines down Eighteenth street southward, and westward along B street to the proposed Twenty-third street entrance of the park, opposite the site of the memorial, will make the latter readily getatable.

There was at the beginning a good deal of discussion as to what the suggested memorial to Lincoln should be. A memorial road to Gettysburg was suggested. Others were in favor of a memorial bridge spanning the Potomac. Both ideas were eventually rejected in favor of the magnificent monument here described.

It is still thought, however, that Congress may see fit to appropriate money for the building of a bridge of no distinctively monumental character to connect Potomac Park with Arlington, the last home of the soldier dead of the civil war. Such a bridge is urged, connecting the Lincoln Memorial site with the ground consecrated by the dust of those who gave the last full measure of devotion to their country would add to the beauty and solemnity of both. [illegible]ing the District of Columbia with Virginia, it would be a striking symbol of reunion between North and South.